

LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA11 | Stoke Mandeville and Aylesbury

Baseline (SV-002-011)

Sound, noise and vibration

November 2013

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Department
for Transport

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1 Introduction

1.1 Structure of the sound, noise and vibration appendices

- 1.1.1 The sound, noise and vibration appendices comprise four sections. The first of these is an introduction to the relevant policy and methodology (Volume 5: Appendix SV-001-000). This relates to the sound, noise and vibration assessment for all community forum areas (CFA).
- 1.1.2 For the Stoke Mandeville and Aylesbury area, the other three sections are as follows:
- baseline sound, noise and vibration (Volume 5: Appendix SV-002-011) (this appendix);
 - construction sound, noise and vibration (Volume 5: Appendix SV-003-011); and
 - operational sound, noise and vibration (Volume 5: Appendix SV-004-011).
- 1.1.3 Maps referred to within this appendix are contained in the Volume 5, Sound, Noise and Vibration Map Book.
- 1.1.4 This appendix includes details of the existing and future baseline sound environment within the area. It provides details of measurements and any other data collection which has been undertaken in order to obtain existing and future baseline sound levels.

1.2 Existing acoustic environment

- 1.2.1 The existing baseline sound environment for this area is varied, reflecting the mixture of small towns, villages, hamlets and isolated properties in a largely rural setting.
- 1.2.2 The largest settlement in this area is Aylesbury. Transport infrastructure through Aylesbury includes road links and the Marylebone to Aylesbury Line and the less regularly used Princes Risborough to Aylesbury Line. The main roads connecting Aylesbury to neighbouring towns include the A413, the A418 Oxford Road and the A41 Bicester Road. Traffic on these main roads forms the dominant sound source for much of Aylesbury.
- 1.2.3 In some of the outskirts of Aylesbury, whilst road traffic on the main roads remains the dominant noise source, this is perceived as being 'distant' and at relatively low level, and natural and agricultural sounds are more prevalent. In these areas daytime sound levels are typically approximately 45 to 50dB¹ with night-time sound levels varying between approximately 35 and 45dB².
- 1.2.4 In Stoke Mandeville the main source of sound is traffic on Risborough Road and other local roads. Other sound sources include the more distant A413 and the Marylebone to Aylesbury Line. Daytime sound levels in locations close to Risborough Road are

¹ Quoted dB values at residential areas refer to the free-field 16 hour daytime (07:00 to 23:00) equivalent continuous sound pressure level, $L_{pAeq,16hr}$.

² Night-time sound levels refer to the free-field 8 hour night-time (23:00 to 07:00) equivalent continuous sound pressure level, $L_{pAeq,8hr}$.

typically around 65dB with increased sound levels at locations very close to the road. In locations in the village further, or shielded, from the busier roads, typical daytime sound levels are 50dB with night-time sound levels typically reducing to around 45dB.

- 1.2.5 In the less populated parts of this area away from Aylesbury, the soundscape generally includes the sound of distant traffic and, in some locations, agricultural activities and natural sounds are also audible. In these locations daytime sound levels are typically approximately 43db to 50dB with night-time levels around 5db to 10dB lower.

2 Scope, assumptions and limitations

2.1 Sound and vibration sensitive receptors

2.1.1 Within the Stoke Mandeville and Aylesbury area, 199 assessment locations have been defined to represent all identified sound and vibration sensitive receptors within the spatial scope. The assessment locations are shown on the Map Series SV-03 and SV-04 (Volume 5, Sound, Noise and Vibration Map Book). Within this area, the following types of sound and vibration sensitive receptors have been identified:

- residential areas;
- education facilities;
- community centres and meeting facilities;
- places of worship; and
- healthcare facilities.

2.2 Local engagement

2.2.1 Discussions have been held with representatives of Aylesbury Vale District Council regarding the approach which has been taken to baseline monitoring within this area, the identification of noise and vibration sensitive receptors, the selection of assessment location and baseline sound levels at these assessment locations.

2.2.2 Changes suggested during these meetings have influenced the assessment locations used and the monitoring undertaken and reported in this document.

2.2.3 Representatives of Aylesbury Vale District Council have also attended baseline sound measurements in this area and witnessed the measurement procedures used.

2.2.4 Local engagement through community forum meetings has also provided the opportunity for local groups to suggest appropriate baseline sound monitoring locations. Any suggestions received from these groups have been considered and influenced the monitoring undertaken and reported in this document.

2.3 Existing baseline sound monitoring locations

2.3.1 In parts of this area, due to limited land access, baseline sound levels have been derived by means of extrapolation of measurements made at similar locations in the area.

2.3.2 Maps showing the baseline sound monitoring locations and assessment locations within this area are included in Map Series SV-03 and SV-04 (Volume 5, Sound, Noise and Vibration Map Book).

3 Environmental baseline

3.1 Existing baseline data collection methodology

- 3.1.1 The overall approach to baseline data collection for sound noise and vibration is described in Volume 5: Appendix SV-001-000.
- 3.1.2 Over the Stoke Mandeville and Aylesbury area, a large number of baseline sound measurements have been undertaken. These have been classified as follows:
- long-term measurements – unattended measurements of several days duration;
 - medium-term measurements – attended measurements of several hours duration (generally repeated at different times of day); and
 - short-term measurements – attended measurements typically of 30 minutes duration (generally repeated at different times of day).
- 3.1.3 In this CFA a total of 56 baseline sound level measurements have been undertaken.
- 3.1.4 Towards the southern outskirts of Stoke Mandeville, three long-term measurements were undertaken at residential noise sensitive properties.
- 3.1.5 In areas surrounding Risborough Road in Stoke Mandeville, six long-term measurements were undertaken where baseline sound levels were representative of those at surrounding properties. A further seven short-term measurements were undertaken in the area due to the high level of residential properties at this location.
- 3.1.6 Towards the western outskirts of Stoke Mandeville, a long-term measurement was undertaken at a noise sensitive property that will come into close proximity to the route of the Proposed Scheme.
- 3.1.7 In Aylesbury, baseline measurements were focused on the residential western edge of the town which is the area in closest proximity to the route of the Proposed Scheme. Eight long-term measurements were undertaken either at residential noise sensitive properties or in nearby locations where baseline sound levels were representative of those at surrounding properties. These were supplemented by thirteen short-term surveys which were also located along the western edge of Aylesbury.
- 3.1.8 In Lower Hartwell, to the west of Aylesbury, three long-term measurements were undertaken. This area contains a mix of rural and residential settings so four further short-term measurements were undertaken to ensure representative soundscapes were measured.
- 3.1.9 Towards the north-western outskirts of Aylesbury, three long-term measurements were undertaken at rural, isolated, noise sensitive properties.
- 3.1.10 Towards the south-east of Waddesdon, there are a number of isolated farms that will come into close proximity to the route of the Proposed Scheme. Two long-term measurements were undertaken at these locations.

3.2 Existing baseline sound levels

3.2.1 From the measurements described in Section 3.1, baseline sound levels have been ascertained for each assessment location within this area. These levels are presented in terms of the following key sound indicators:

- For the operational sound assessment
 - $L_{pAeq,16hr}$ weekday daytime (07:00-23:00) sound pressure level;
 - $L_{pAeq,8hr}$ weekday night-time (23:00-07:00) sound pressure level;
 - arithmetic average of $L_{pAFmax,5min}$ night-time sound pressure level; and
 - highest $L_{pAFmax,5min}$ night-time sound pressure level.
- For the construction sound assessment
 - daytime L_{pAeq} sound pressure level (Monday to Friday 07:00-19:00; Saturday 07:00-13:00);
 - evening/weekend L_{pAeq} sound pressure level (Monday to Friday 19:00-23:00; Saturday 13:00-23:00; Sunday 07:00 to 23:00); and
 - night-time L_{pAeq} sound pressure level (Monday to Sunday 23:00-07:00).

3.2.2 These values are presented in Table 1. The data source coding included within this table details how the baseline sound levels allocated to each assessment location have been derived. This coding is summarised in Table 2 and explained in detail in Volume 5: Appendix SV-001-000.

Appendix SV-002-011

Table 1: Existing baseline sound levels

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq, 16hr}	Night-time L _{pAeq, 8hr}	Arithmetic average of night-time L _{pAFmax, 5min}	Highest night-time L _{pAFmax, 5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
298707	Cooks Road, Aylesbury	CS2043	51.0	40.8	46.2	76.0	51.7	50.5	39.6	2,A,i,a
298735	Hickman Street, Aylesbury	CS5115	47.1	41.8	48.0	69.5	48.0	45.5	41.3	1,A,iii,b
298817	Cooks Road, Aylesbury	CS5124	45.8	36.4	42.5	63.2	46.6	45.9	36.5	1,A,i,a
298976	Eyre Close, Aylesbury	CS2043	51.0	40.8	46.2	76.0	51.7	50.5	39.6	2,A,ii,b
299219	Brimmers Way, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,iii,b
299591	Brimmers Way, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,iii,b
299978	Great Meadow Way, Aylesbury	CS5115	47.1	41.8	48.0	69.5	48.0	45.5	41.3	1,A,iii,b
300635	Napier Road, Aylesbury	CS2066	45.9	35.0	36.8	67.8	46.7	47.4	35.2	1,A,i,a
300647	Warbler Close, Aylesbury	CS5127	43.5	38.6	45.4	62.5	44.1	43.4	39.4	1,A,i,a
300773	Wren Path, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,iii,b
300929	Spruce Road, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,ii,b
301228	Grosvenor Way, Aylesbury	CS3027	48.0	37.9	39.2	70.2	48.0	49.6	36.6	3,A,i,a
301296	Arncott Way, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,iii,b
301483	Chelsea Road, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,ii,b
301668	Chelsea Road, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,i,a

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
301851	Hampstead Close, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,ii,b
302545	Upper Winchendon, Aylesbury	CS4006	47.2	43.2	47.5	73.4	47.7	52.4	43.5	1,A,ii,b
303147	Cottage Grounds, Stone	CS2102	52.7	44.5	53.6	71.4	53.5	50.1	44.3	3,A,ii,b
304833	Sedrup, Hartwell	CS3042	46.6	40.0	51.2	68.6	47.6	45.9	39.6	1,C,ii,b
304876	Portway Road, Stone	CS2030	57.5	48.9	68.6	72.3	58.0	55.6	48.9	4,C,ii,b
304968	Sedrup, Hartwell	CS3042	49.1	42.5	51.2	68.6	50.1	48.4	42.1	1,A,i,a
305037	Portway Road, Stone	CS3042	49.1	42.5	51.2	68.6	50.1	48.4	42.1	1,A,ii,b
305139	Meadoway, Hartwell	CS2030	53.6	45.1	68.6	72.3	54.1	51.7	45.0	4,BC,ii,b
305201	Mayflower Close, Hartwell	CS2030	59.7	51.1	68.6	72.3	60.2	57.8	51.1	4,C,ii,b
305474	Upper Hartwell, Stone	CS2025	45.5	36.9	43.0	46.7	46.0	43.6	36.9	4,A,ii,b
305678	Unnamed Road, Stone With Bishopstone And Hartwell	CS2025	45.5	36.9	43.0	46.7	46.0	43.6	36.9	4,A,ii,b
305692	Upper Hartwell, Stone	CS2025	45.5	36.9	43.0	46.7	46.0	43.6	36.9	4,A,ii,b
305767	Lower Hartwell, Aylesbury	CS1307	43.3	36.5	45.5	65.2	45.9	47.2	36.5	1,A,ii,b
305827	Lower Hartwell, Aylesbury	CS2102	52.7	44.5	53.6	71.4	53.5	50.1	44.3	3,A,iii,b
305896	Oxford Road, Stone	CS2030	70.1	61.5	68.6	72.3	70.6	68.2	61.5	4,A,ii,b
305909	Lower Hartwell, Aylesbury	CS2030	61.0	52.4	68.6	72.3	61.5	59.1	52.4	4,C,ii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/weekend L _{pAeq}	Night-time L _{pAeq}	
305983	Unnamed Road, Stone With Bishopstone And Hartwell	CS5102	44.4	36.2	44.4	62.2	44.9	41.5	35.7	1,A,ii,b
306049	Oxford Road, Lower Hartwell	CS5102	44.4	36.2	44.4	62.2	44.9	41.5	35.7	1,A,ii,b
306055	Oxford Road, Hartwell	CS2030	63.4	54.8	68.6	72.3	63.9	61.5	54.8	4,C,ii,b
306075	Oxford Road, Hartwell	CS2030	70.1	61.5	68.6	72.3	70.6	68.2	61.5	4,A,ii,b
306197	Swallow Lane, Aylesbury	CS5115	47.1	41.8	48.0	69.5	48.0	45.5	41.3	1,A,iii,b
306223	Lower Hartwell, Aylesbury	CS5124	45.8	36.4	42.5	63.2	46.6	45.9	36.5	1,A,iii,b
307325	Meredith Drive, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,iii,b
308644	Gogh Road, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,iii,b
308665	Picasso Place, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,iii,b
308722	Rabans Close, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,iii,b
309021	Telford Close, Aylesbury	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,iii,b
309118	Tompion Road, Aylesbury	CS5115	47.1	41.8	48.0	69.5	48.0	45.5	41.3	1,A,iii,b
309275	Edison Road, Rabans Lane Industrial Area	CS5100	47.3	35.8	40.9	69.0	48.3	42.8	35.8	1,A,ii,b
309296	Rabans Lane, Aylesbury	CS5100	47.3	35.8	40.9	69.0	48.3	42.8	35.8	1,A,i,a
309320	Edison Road, Rabans Lane Industrial Area	CS5100	47.3	35.8	40.9	69.0	48.3	42.8	35.8	1,A,ii,b
309415	Bessemer Crescent, Rabans Lane Industrial Area	CS5100	47.3	35.8	40.9	69.0	48.3	42.8	35.8	1,A,ii,b

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309474	Rabans Lane, Aylesbury	CS6006	49.5	46.1	51.3	73.3	50.4	45.8	46.0	1,A,i,a
310199	Oxpen, Aylesbury	CS4005	65.4	58.5	69.8	75.9	66.0	62.7	57.5	1,A,iii,b
310538	Fleet Marston, Aylesbury	CS1052	46.2	38.6	45.3	62.1	46.9	46.7	39.3	1,A,ii,b
310564	Fleet Marston, Aylesbury	CS1052	46.2	38.6	45.3	62.1	46.9	46.7	39.3	1,A,i,a
310612	Fleet Marston, Aylesbury	CS4006	47.2	43.2	47.5	73.4	47.7	52.4	43.5	1,A,i,a
310817	Unnamed Road, Fleet Marston	CS4005	55.3	48.4	69.8	75.9	55.9	52.6	47.4	1,C,ii,b
310839	Fleet Marston, Aylesbury	CS4005	65.4	58.5	69.8	75.9	66.0	62.7	57.5	1,A,i,a
310891	Hunters Farm Industrial Estate, Fleet Marston	CS4005	65.4	58.5	69.8	75.9	66.0	62.7	57.5	1,C,ii,b
310944	Fleet Marston, Aylesbury	CS4005	65.4	58.5	69.8	75.9	66.0	62.7	57.5	1,A,ii,b
311007	Putlowes Drive, Fleet Marston	CS0083	48.3	41.0	50.4	67.2	48.1	46.4	40.8	1,A,i,a
311114	Fleet Marston, Aylesbury	CS0015	55.3	46.6	55.2	66.4	54.8	52.6	46.6	1,A,i,a
311158	Putlowes Drive, Fleet Marston	CS0015	55.3	46.6	55.2	66.4	54.8	52.6	46.6	1,A,ii,b
311184	Quarrendon, Aylesbury	CS0083	48.3	41.0	50.4	67.2	48.1	46.4	40.8	1,A,iii,b
311929	Oxpen, Aylesbury	CS4005	65.4	58.5	69.8	75.9	66.0	62.7	57.5	1,A,iii,b
312462	Risborough Road, Stoke Mandeville	CS2003	57.2	48.3	76.3	82.3	57.3	55.3	48.3	3,B,C,ii,b
312566	Unnamed Road, Stone With Bishopstone And Hartwell	CS1210	54.0	52.7	50.8	73.1	54.8	49.6	52.7	1,B,ii,b

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312872	Bishopstone, Aylesbury	CS1210	54.0	52.7	50.8	73.1	54.8	49.6	52.7	1,B,ii,b
313421	Risborough Road, Stoke Mandeville	CS5122	53.5	44.9	52.7	66.8	53.4	49.0	43.8	1,A,iii,b
313673	Risborough Road, Stoke Mandeville	CS5122	53.5	44.9	52.7	66.8	53.4	49.0	43.8	1,A,i,a
313799	Risborough Road, Stoke Mandeville	CS0078	48.5	43.1	51.0	70.2	48.8	47.0	42.8	1,A,i,a
313866	Risborough Road, Stoke Mandeville	CS2003	64.3	55.4	76.3	82.3	64.4	62.4	55.4	3,C,ii,b
314803	Quilters Way, Stoke Mandeville	CS2064	53.5	47.3	51.8	80.2	54.0	51.4	45.7	1,A,iii,b
314965	Old Risborough Road, Stoke Mandeville	CS2002	51.3	48.5	58.2	71.5	51.7	49.8	48.2	2,A,ii,b
316101	Hampden Square, Aylesbury	CS5115	47.1	41.8	48.0	69.5	48.0	45.5	41.3	1,A,iii,b
317201	Church Court, Stoke Mandeville	CS1211	49.9	44.3	49.8	70.0	50.0	49.4	44.3	1,A,iii,b
317279	Stoke Leys Close, Aylesbury	CS2049	51.9	42.8	47.1	70.7	51.7	50.4	41.7	3,A,iii,b
319163	Sedrup, Hartwell	CS3042	45.9	39.2	51.2	68.6	46.6	44.9	39.2	1,D,ii,b
319187	Sedrup, Hartwell	CS3042	46.9	40.3	51.2	68.6	47.9	46.2	39.9	1,C,ii,b
319293	Pearson Close, Aylesbury	CS1306	57.1	47.6	58.8	74.9	56.3	53.6	47.6	1,A,iii,b
319305	Thame Road South, Aylesbury	CS1306	57.1	47.6	58.8	74.9	56.3	53.6	47.6	1,A,iii,b
319325	Alham Road, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
319422	Dormer Close, Aylesbury	CS1308	48.5	44.3	51.6	77.2	46.6	50.1	40.6	1,A,ii,b

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			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
319615	Bonham Close, Aylesbury	CS1308	48.5	44.3	51.6	77.2	46.6	50.1	40.6	1,A,ii,b
320227	Briskman Way, Aylesbury	CS1306	57.1	47.6	58.8	74.9	56.3	53.6	47.6	1,A,iii,b
320409	Oxford Road, Hartwell	CS2030	58.9	50.3	68.6	72.3	59.4	57.0	50.3	4,BC,iii,b
320715	Lupin Walk, Aylesbury	CS1308	48.5	44.3	51.6	77.2	46.6	50.1	40.6	1,A,i,a
320782	Oxford Road, Hartwell	CS2030	57.1	48.5	68.6	72.3	57.6	55.2	48.5	4,BC,iii,b
320799	Oxford Road, Hartwell	CS2030	50.5	41.9	68.6	72.3	51.0	48.6	41.9	4,BC,iii,b
320819	Oxford Road, Hartwell	CS2030	55.3	46.7	68.6	72.3	55.8	53.4	46.7	4,BC,iii,b
324002	Slattenham Close, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
324129	Rowland Way, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
325151	Upper Abbots Hill, Aylesbury	CS1306	57.1	47.6	58.8	74.9	56.3	53.6	47.6	1,A,ii,b
325211	Great Meadow Way, Aylesbury	CS1306	57.1	47.6	58.8	74.9	56.3	53.6	47.6	1,A,iii,b
325431	Horton Close, Aylesbury	CS1306	57.1	47.6	58.8	74.9	56.3	53.6	47.6	1,A,ii,b
325816	Pitcher Walk, Aylesbury	CS5115	47.1	41.8	48.0	69.5	48.0	45.5	41.3	1,A,iii,b
327420	Bishopstone, Aylesbury	CS3042	49.1	42.5	51.2	68.6	50.1	48.4	42.1	1,A,iii,b
327675	Torridge Road, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
328417	Ellen Road, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,iii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
328584	Brent Path, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,iii,b
328805	Lowmon Way, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,iii,b
329008	Orwell Close, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,iii,b
329139	Enborne Close, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,iii,b
329253	Welland Road, Aylesbury	CS1018	45.0	45.7	48.5	73.7	46.5	44.3	46.0	3,A,ii,b
329413	Blackwater Drive, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,ii,b
329685	Witham Way, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,ii,b
329807	Witham Way, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,i,a
330063	Alwin Close, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
330343	Ebble Close, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,ii,b
330464	Anton Way, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,iii,b
330552	Stour Close, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,ii,b
330593	Parslow Close, Aylesbury	CS5133	45.4	41.8	45.9	69.2	46.2	45.7	42.0	1,A,i,a
330723	Anton Way, Aylesbury	CS2048	48.1	39.0	48.2	71.8	47.7	46.4	37.7	3,A,iii,b
330937	Garron Close, Aylesbury	CS2048	48.1	39.0	48.2	71.8	47.7	46.4	37.7	3,A,iii,b
331111	Isis Close, Aylesbury	CS2045	45.1	39.4	42.9	68.0	45.9	43.7	39.4	3,A,ii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
331451	Bowmont Drive, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,iii,b
331680	Anton Way, Aylesbury	CS2045	45.1	39.4	42.9	68.0	45.9	43.7	39.4	3,A,iii,b
331963	Hillier Road, Aylesbury	CS5133	45.4	41.8	45.9	69.2	46.2	45.7	42.0	1,A,iii,b
332206	Anton Way, Aylesbury	CS2048	48.1	39.0	48.2	71.8	47.7	46.4	37.7	3,A,ii,b
332217	Harbourne Close, Aylesbury	CS2045	45.1	39.4	42.9	68.0	45.9	43.7	39.4	3,A,ii,b
332328	Deverill Road, Aylesbury	CS2045	45.1	39.4	42.9	68.0	45.9	43.7	39.4	3,A,ii,b
332389	Oat Close, Aylesbury	CS2045	45.1	39.4	42.9	68.0	45.9	43.7	39.4	3,A,i,a
332435	Anton Way, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,iii,b
334627	Hamble Drive, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
335983	Grenville Road, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
336058	Grenville Road, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
336324	Cornbrook Road, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
336610	Plym Close, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
337269	Hannon Road, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
337422	Nene Close, Aylesbury	CS1018	45.0	45.7	48.5	73.7	46.5	44.3	46.0	3,A,ii,b
337442	Frome Close, Aylesbury	CS1018	45.0	45.7	48.5	73.7	46.5	44.3	46.0	3,A,ii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
337702	Tees Road, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,ii,b
337871	Nursery Close, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
338807	Marsh Lane, Stoke Mandeville	CS5132	53.6	50.3	53.8	74.8	54.4	52.8	50.0	1,A,ii,b
338869	Marsh Lane, Stoke Mandeville	CS5132	53.6	50.3	53.8	74.8	54.4	52.8	50.0	1,A,i,a
338898	Lower Road, Stoke Mandeville	CS2067	50.1	41.0	47.8	71.4	50.3	49.0	40.3	1,A,ii,b
338936	Lower Road, Stoke Mandeville	CS2067	50.1	41.0	47.8	71.4	50.3	49.0	40.3	1,A,ii,b
339059	Lower Road, Stoke Mandeville	CS5132	53.6	50.3	53.8	74.8	54.4	52.8	50.0	1,A,ii,b
340267	Hughenden Green, Aylesbury	CS2049	51.9	42.8	47.1	70.7	51.7	50.4	41.7	3,A,iii,b
340847	Bowler Road, Aylesbury	CS2049	51.9	42.8	47.1	70.7	51.7	50.4	41.7	3,A,iii,b
341103	Lower Road, Aylesbury	CS2067	50.1	41.0	47.8	71.4	50.3	49.0	40.3	1,A,iii,b
341163	Lower Road, Stoke Mandeville	CS2067	50.1	41.0	47.8	71.4	50.3	49.0	40.3	1,A,iii,b
341245	Mentmore Green, Aylesbury	CS2049	51.9	42.8	47.1	70.7	51.7	50.4	41.7	3,A,iii,b
341560	Kynaston Avenue, Aylesbury	CS2049	51.9	42.8	47.1	70.7	51.7	50.4	41.7	3,A,iii,b
341860	Westfield, Aylesbury	CS2049	51.9	42.8	47.1	70.7	51.7	50.4	41.7	3,A,i,a
341948	Rake Way, Aylesbury	CS2049	51.9	42.8	47.1	70.7	51.7	50.4	41.7	3,A,iii,b
343499	Risborough Road, Stoke Mandeville	CS5130	51.7	46.3	55.1	72.7	52.3	53.6	46.3	1,A,i,a

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
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			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
343533	Risborough Road, Stoke Mandeville	CS5130	51.7	46.3	55.1	72.7	52.3	53.6	46.3	1,A,ii,b
343650	Yew Tree Close, Stoke Mandeville	CS4004	48.0	42.7	49.3	71.6	48.8	50.4	42.7	1,A,ii,b
343762	Chestnut Way, Stoke Mandeville	CS4004	48.0	42.7	49.3	71.6	48.8	50.4	42.7	1,A,i,a
343823	Risborough Road, Stoke Mandeville	CS0030	62.8	55.0	68.5	74.4	62.9	60.9	54.7	1,A,i,a
343866	Risborough Road, Stoke Mandeville	CS2047	69.0	61.2	80.8	86.8	69.1	67.1	60.9	3,C,ii,b
343943	Risborough Road, Stoke Mandeville	CS2046	66.0	58.8	71.1	77.8	66.6	64.6	58.4	1,A,ii,b
343993	Chalgrove End, Stoke Mandeville	CS1211	49.9	44.3	49.8	70.0	50.0	49.4	44.3	1,A,ii,b
344316	Hampden Road, Stoke Mandeville	CS1211	49.9	44.3	49.8	70.0	50.0	49.4	44.3	1,A,ii,b
344788	Station Road, Stoke Mandeville	CS1211	49.9	44.3	49.8	70.0	50.0	49.4	44.3	1,A,iii,b
344841	Eskdale Road, Stoke Mandeville	CS1211	49.9	44.3	49.8	70.0	50.0	49.4	44.3	1,A,iii,b
345007	Eskdale Road, Stoke Mandeville	CS1211	49.9	44.3	49.8	70.0	50.0	49.4	44.3	1,A,iii,b
345164	Irvine Drive, Stoke Mandeville	CS1211	49.9	44.3	49.8	70.0	50.0	49.4	44.3	1,A,iii,b
345301	Risborough Road, Stoke Mandeville	CS1013	59.4	50.2	61.7	68.5	60.0	58.0	51.3	3,A,ii,b
345404	Lower Road, Stoke Mandeville	CS2067	50.1	41.0	47.8	71.4	50.3	49.0	40.3	1,A,ii,b
345481	Lower Road, Stoke Mandeville	CS2046	60.7	53.5	71.1	77.8	61.3	59.3	53.1	1,C,ii,b
345540	Swallow Lane, Stoke Mandeville	CS2046	66.0	58.8	71.1	77.8	66.6	64.6	58.4	1,A,iii,b

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			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
345557	Lower Road, Stoke Mandeville	CS1106	52.4	47.1	65.4	87.8	53.2	54.8	47.1	3,C,ii,b
345593	Marsh Lane, Stoke Mandeville	CS1106	53.8	48.5	65.4	87.8	54.6	56.2	48.5	3,C,ii,b
345617	Hampden Road, Stoke Mandeville	CS1211	49.9	44.3	49.8	70.0	50.0	49.4	44.3	1,A,i,a
345752	Chapel Lane, Stoke Mandeville	CS4004	48.0	42.7	49.3	71.6	48.8	50.4	42.7	1,A,ii,b
345824	Lower Road, Stoke Mandeville	CS2067	50.1	41.0	47.8	71.4	50.3	49.0	40.3	1,A,i,a
348206	Keen Close, Aylesbury	CS5115	47.1	41.8	48.0	69.5	48.0	45.5	41.3	1,A,iii,b
348419	Prestwold Way, Aylesbury	CS2103	55.6	46.2	50.9	71.6	56.1	55.4	46.0	3,A,ii,b
348501	Andrews Way, Aylesbury	CS2103	55.6	46.2	50.9	71.6	56.1	55.4	46.0	3,A,ii,b
348799	Jakeman Way, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
348914	Briskman Way, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
349825	Briskman Way, Aylesbury	CS1017	46.6	40.9	47.3	72.5	48.0	45.8	41.5	3,A,iii,b
358148	Wendover Road, Weston Turville	CS2064	53.5	47.3	51.8	80.2	54.0	51.4	45.7	1,A,iii,b
358721	Aylesbury Road, Wendover	CS2100	73.1	65.9	75.2	79.2	73.6	70.6	65.8	4,A,ii,b
700331	Risborough Road, Stoke Mandeville	CS5122	53.5	44.9	52.7	66.8	53.4	49.0	43.8	1,A,ii,b
700332	Risborough Road, Stoke Mandeville	CS5122	53.5	44.9	52.7	66.8	53.4	49.0	43.8	1,A,ii,b
700333	Old Risborough Road, Stoke Mandeville	CS2001	48.8	43.5	52.4	65.6	49.2	47.3	43.2	1,A,ii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
700334	Whitethorn Close, Stoke Mandeville	CS2001	48.8	43.5	52.4	65.6	49.2	47.3	43.2	1,A,ii,b
700335	Unnamed Road, Stoke Mandeville	CS0078	48.5	43.1	51.0	70.2	48.8	47.0	42.8	1,A,ii,b
700338	Unnamed Road, Stone With Bishopstone And Hartwell	CS5132	53.6	50.3	53.8	74.8	54.4	52.8	50.0	1,A,iii,b
700339	Unnamed Road, Stone With Bishopstone And Hartwell	CS1210	54.0	52.7	50.8	73.1	54.8	49.6	52.7	1,B,ii,b
700342	Unnamed Road, Stone With Bishopstone And Hartwell	CS1307	43.3	36.5	45.5	65.2	45.9	47.2	36.5	1,A,ii,b
700343	Lower Hartwell, Aylesbury	CS5124	45.8	36.4	42.5	63.2	46.6	45.9	36.5	1,A,iii,b
700344	Fleet Marston, Aylesbury	CS0083	48.3	41.0	50.4	67.2	48.1	46.4	40.8	1,A,i,a
711003	Committed Development C252-AV20	CS2064	48.5	42.3	51.8	80.2	49.0	46.4	40.7	1,B,iii,b
711007	Committed Development RSAV-MDA2	CS5134	49.1	46.1	49.5	72.9	49.7	48.9	46.1	1,A,iii,b
711018	Bucks Goat Cetnre	CS5122	58.0	49.4	52.7	66.8	57.9	53.5	48.3	1,C,ii,b
810001	South-western facades of the Goat Centre, Stoke Mandeville	CS2001	48.8	43.5	52.4	65.6	49.2	47.3	43.2	1,A,ii,b
810002	South-western facades of residences on Old Risborough Road, Stoke Mandeville	CS2001	48.8	43.5	52.4	65.6	49.2	47.3	43.2	1,A,ii,b
810003	South-western facades of residences on Whitethorn Close, Stoke Mandeville	CS2001	48.8	43.5	52.4	65.6	49.2	47.3	43.2	1,A,ii,b

Assessment location ID	Area Represented	Measurement location	Existing baseline sound level (dB)							Data source coding
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ weekend L _{pAeq}	Night-time L _{pAeq}	
901006	Grosvenor Way, Stone With Bishopstone And Hartwell	CS5127	43.5	38.6	45.4	62.5	44.1	43.4	39.4	1,A,ii,b
901007	Grosvenor Way, Stone With Bishopstone And Hartwell	CS5127	43.5	38.6	45.4	62.5	44.1	43.4	39.4	1,A,ii,b
901008	Unnamed Road, Stone With Bishopstone And Hartwell	CS5124	45.8	36.4	42.5	63.2	46.6	45.9	36.5	1,A,ii,b
901009	Unnamed Road, Stone With Bishopstone And Hartwell	CS1307	43.3	36.5	45.5	65.2	45.9	47.2	36.5	1,A,ii,b
901010	Lower Close, Aylesbury	CS1306	57.1	47.6	58.8	74.9	56.3	53.6	47.6	1,A,ii,b
901011	Unnamed Road, Stone With Bishopstone And Hartwell	CS1307	43.3	36.5	45.5	65.2	45.9	47.2	36.5	1,A,ii,b
901012	A418, Stone With Bishopstone And Hartwell	CS5124	45.8	36.4	42.5	63.2	46.6	45.9	36.5	1,A,ii,b
901013	Unnamed Road, Aylesbury	CS1018	45.0	45.7	48.5	73.7	46.5	44.3	46.0	3,A,ii,b
901014	Cherwell Road, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,ii,b
901015	Blackwater Drive, Aylesbury	CS1016	44.9	40.5	43.2	68.4	46.0	43.8	40.6	3,A,ii,b
901016	Unnamed Road, Stone With Bishopstone And Hartwell	CS1015	41.4	29.7	31.2	54.8	42.5	41.2	30.2	3,A,ii,b

Table 2: Data source coding key

Code	Data source type
1	Long-term measurement location
2	Short-term (linked to simultaneous long-term)
3	Short-term (using profile from non-simultaneous long-term)
4	Short-term using standard (National Noise Incidence Study ³ or other) 24hr profile
5	Specific validated prediction
6	Predictions from other sources (Department of Environment, Food and Rural Affairs (Defra) noise maps ⁴ , etc.)
7	Generic levels

Code	Corrections applied
A	Data from above source applied directly
B	Correction applied for screening
C	Correction applied for distance from source
D	Minimum level cut-off applied.

Code	Distance from measurement
i	Data applied from a measurement at or very close to the assessment location.
ii	Data applied from a local measurement location at a greater distance but noted to have equivalent acoustic climate.
iii	Data applied from a distant measurement location where sound levels would be expected to be similar.

Code	Uncertainty
a	Data are considered highly representative of the prevailing sound climate.
b	Data are considered representative of the prevailing sound climate, but variations in measured levels indicate that there may be a higher degree of uncertainty than for (a).
c	Data are considered to be an estimate of the sound climate, (e.g. taken from Defra noise maps, etc.).

³ Building Research Establishment (2002), *National Noise Incidence Study*, 2000/2001.

⁴ Defra; Noise Mapping England; <http://services.defra.gov.uk/wps/portal/noise/>; Accessed: 26 July 2013.

3.3 Future baseline methodology

Construction

- 3.3.1 The assessment of noise from construction activities assumes a baseline year of 2017. As a conservative assumption, it has been assumed that no change in baseline sound levels will occur between the existing baseline (2012/13) and the future baseline year of 2017.
- 3.3.2 Due to the duration of the construction work and as the precise timing of the highest sound levels would be different in each location, using baseline sound levels for 2017 as the start of the construction period, provides a reasonable worst case assessment.
- 3.3.3 The assessment of construction traffic is based on future baseline traffic flows for 2021, as a year representative of the middle of the construction period.

Operation

- 3.3.4 There is potential for future baseline sound levels for operation (2026) to change when compared to the existing baseline sound levels (2012) as a result of changes in baseline sound sources.
- 3.3.5 In the vast majority of cases where change might occur it is expected that baseline sound levels will increase at assessment locations due to increases in vehicle movements on roads. It is therefore considered that the use of the 2012 baseline levels in the operational assessment will result in a worst case assessment of the impact of changes in the future baseline sound levels in the majority of locations.
- 3.3.6 Therefore for the purposes of this assessment future baseline levels have been assumed to be identical to those identified in Table 1 for 2012.
- 3.3.7 In addition, based on available road traffic information a screening exercise has been undertaken to identify any areas in which a change in baseline sound level might be likely. No reductions in baseline sound level have been identified; however, an increase in baseline noise levels has been predicted at the locations shown in Table 3 due to increased future traffic flows.

Table 3: Future baseline noise levels

Assessment Location	Road	Predicted increase in Basic Noise Level (2026)
314965	Marsh Lane	+1.1dB
313799		
700335		
312462	A4010 Risborough Road	
343499		
343533		
345752	Old Risborough Road	
343650		
343762		
345557	Marsh Lane	+1.0dB
345593		
345404		
345824	B4443 Lower Road	
338869		
338807		
320819	A418 Oxford Road	+1.0dB
320799		
320782		
306075		
306049		
305983		
305727		
305767		

4 References

Building Research Establishment (2002), *National Noise Incidence Study*, 2000/2001.

Defra; Noise Mapping England; <http://services.defra.gov.uk/wps/portal/noise/>; Accessed: 26 July 2013.